



May 27, 2004

NAVY'S SMALLEST IMAGE-GUIDED MISSILE COMPLETES SUCCESSFUL TESTS

Naval Air Warfare Center Weapons Division China Lake, Calif.--

In the California desert, under a glaring mid-morning sun, Spike—the world's smallest image-guided, fire-and-forget missile—accomplished its first controlled flights on May 26, 2004.

In three test flights totaling slightly less than 60 seconds, the diminutive missile (5.3 pounds, 25-inches long) successfully demonstrated more than a dozen critical functions. "This paves the way for self-guided flight tests in 2004," said China Lake engineer Steve Felix, the Spike project manager.

Originally conceived as a man-portable weapon for Marines and Navy special operations groups, which have supported the weapon's development, Spike fills a critical niche for a low cost, lightweight guided weapon for U.S. ground forces.

With only 15 minutes of training, ground troops will be able to effectively engage soft and lightly armored targets at ranges up to 2 miles. Plus Spike's precision guidance reduces the risk of collateral damage.

Its lightweight and low cost (about \$4K per missile) make it suitable for wide distribution among front-line units and cost effective even against low-value targets.

Spike's potential applications go beyond ground combat. It is a realistic armament choice for tactical unmanned aerial vehicles as well as a force-protection weapon to defend surface ships from small-boat swarms and light aircraft.

In all three flights, Spike's reduced-smoke motor propelled the missile from the launcher with barely a visible wisp of smoke. The missile accelerated to 600 miles per hour in under 1.5 seconds. At a predetermined time, the guidance section commanded several pre-programmed pitch, yaw, and roll maneuvers.

"This was a 'walk before you run' approach," added Felix. "The first and third flights did 4-g maneuvers, the second flight 6-gs. Future test flights will work toward the system's maneuverability limits."

Warrior input has driven every step of the design and engineering process. "Spike is an 80% solution," explained Felix, who conceived the idea for the weapon. "It's not designed for every threat on the battlefield. But it is extremely lethal against a broad cross section of mobile targets and could be available to U.S. forces within 24 months from receipt of funding. Spike is a highly effective and low-cost solution, and it's needed by our warfighters today."

It has been under development at Naval Air Warfare Center Weapons Division China Lake by a small



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government/industry development team of interdisciplinary experts from China Lake, DRS Technology, and ATK Thiokol. Sverdrup Naval Systems Group provided additional support.

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